

SEGA®

ALIEN STORM

Owner's Manual

3 PLAYER UPRIGHT

SEGA ENTERPRISES, INC



999-0017

ALIEN STORM

by:

SEGA Enterprises, Inc. (U.S.A.)
2149 Paragon Drive
San Jose, California 95131
Phone Number (408) 435-0201
FAX Number (408) 435-0294

SPECIFICATIONS

INSTALLATION SPACE	:	25.5 INCHES X 33 INCHES
HEIGHT	:	76.5 INCHES
POWER	:	250 WATTS
DISPLAY TYPE	:	19 INCH COLOR MONITOR
WEIGHT	:	209 POUNDS

The Federal Communication Commission requires the verification of game kits.
This game meets these requirements when installed in accordance with the
instructions in this Manual and using only components and materials supplied.

Table of Contents

Introduction	3
Handling and Installation Precautions	3
Prevention of Counterfeiting and Conversion Labeling	4
Precautions Concerning the Place of Installation	5
Cabinet Diagram	6
Opening the Control Panel	7
Service Switches	8
In Case of Difficulty	9
Monitor Adjustments	10
Switch Setting Sheet	11
Schematic Diagram	12

NOTE: DESCRIPTIONS HEREIN CONTAINED MAY BE SUBJECT TO IMPROVEMENT OR
CHANGES WITHOUT NOTICE.

INTRODUCTION OF THE OWNER'S MANUAL

SEGA ENTERPRISES, LTD., supported by its high electronic technology of LSIs, microprocessors, etc. and a wealth of experience, has for more than 30 years been supplying various innovative and popular game machines to the world market. This OWNER'S manual is intended to provide detailed comments together with all the necessary information covering the operation in general of electronic assemblies, electromechanical servicing control, spare parts, etc. The manual is intended for those who have knowledge of electricity and technical expertise especially in ICs, CRTs, microprocessors, etc. Carefully read so as to acquire sufficient knowledge before working on the machine. Should there be a malfunction, non-technical personnel should under no circumstances touch the interior system.

HANDLING PRECAUTIONS

When installing or inspecting, be very careful of the following points and pay attention to ensure that the player can enjoy the game safely.

- o Be sure to turn the power off before working on the machine.
- o To insert or pull out the plug quickly is dangerous.
- o It is necessary to make sure that the power cord or the grounding wire is not exposed on the road, etc. in a manner so as to be dangerous. Make sure that grounding connections are made safely at the position where specified.
- o Do not use any fuse that does not meet the specified rating.
- o Make complete connections for the IC board and other connectors. Insufficient insertion is very dangerous.

Also, for the IC board circuit inspections, only the logic probe is allowed. The use of a tester is not permitted, so be careful in this regard. After confirming that there are no irregularities, turn the power ON.

PREVENTION OF COUNTERFEITING AND CONVERSION

LABELLING

To prevent counterfeits and conversions, the following labels are put on all the SEGA products. When handling such goods, be sure to confirm the labels. They are used to prevent illegal acts such as the unauthorized copying of the products and the printed circuit boards thereof or carrying on business by manufacturing similar merchandise or by converting, selling or using such products or printed circuit boards.

The following seal is put on the machines manufactured by SEGA



ORIGINAL SEAL

COPYRIGHT NOTICE

This SEGA product has the copyright notice as follows:

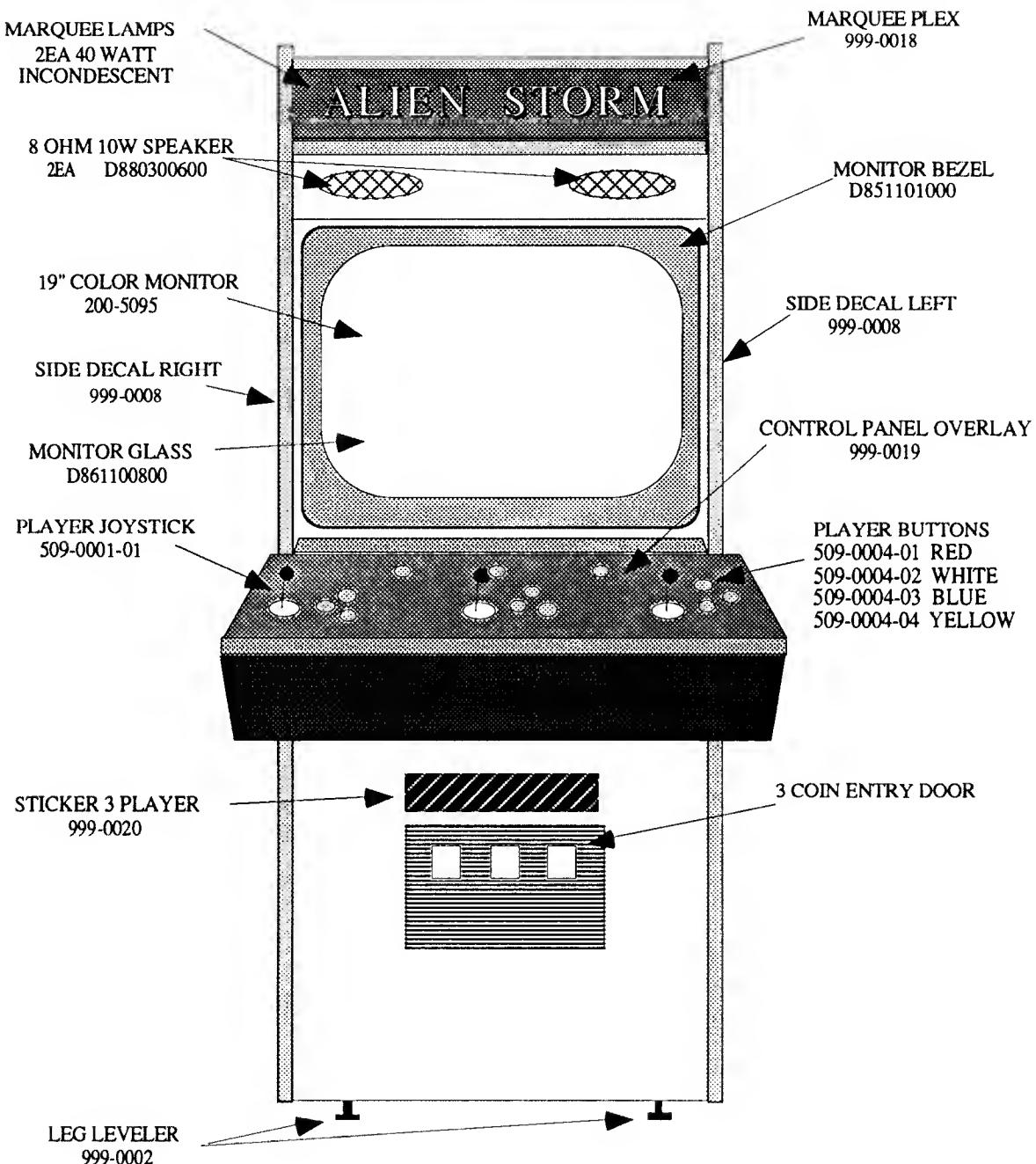
© SEGA 1990

This signifies that this work was disclosed in 1990 and is the property of SEGA ENTERPRISES, LTD.

PRECAUTIONS CONCERNING THE PLACE OF INSTALLATION

This is an indoor game machine. Absolutely do not install it outside. Even indoors, avoid installing in places mentioned below so as to ensure proper usage:

- o Places subject to rain or water leakage, or condensation due to humidity.
- o In the proximity of an indoor swimming pool and/or shower.
- o Places subject to direct sunlight.
- o Places subject to heat sources from heating units, etc., or hot air.
- o Vicinity of highly flammable/volatile chemicals or hazardous matter.
- o Sloped surfaces.
- o Vicinity of anti-disaster facilities such us fire exits and fire extinguishers.
- o Places subject to any type of violent impact.
- o Dusty places.



OPENING THE CONTROL PANEL FOR SERVICE OR TO GAIN ACCESS TO THE PC BOARD AREA.

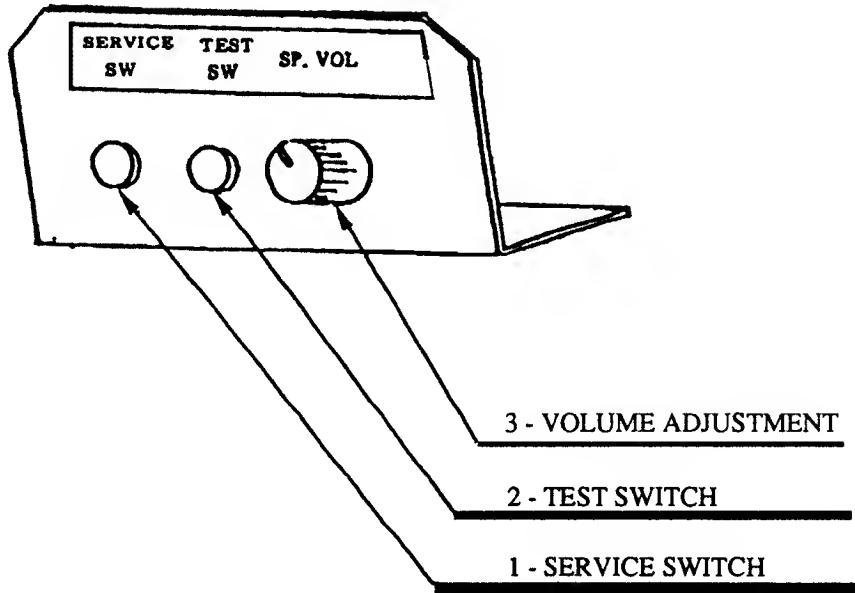
To open the control panel and gain access to the PC Board for maintenance or replacement follow these procedures:

**NOTE: Use caution in lowering the control panel, so it does not fall.
When ready to lower the control panel close the service door
and remove the key so this does not damage the control panel
overlay or the key.**

- o Open the Coin Door, and disengage the 2 Super Clamps holding the control panel. This can be done by putting your arm through the coin door opening and reach up to the upper right hand corner of the control panel and un-latch the super clamp. Repeat this process for the clamp in the upper left hand corner.
- o To remove the control panel, remove the four bolts on the hinge that hold the panel in place, and disconnect the control panel harness.
- o To gain access to the PC Board remove the cover of the RFI cage by pulling upward on the Ny-latch fasteners.

SERVICE SWITCHES

Open the COIN CHUTE DOOR, and the following SERVICE SWITCH layout will appear:



- | | |
|-----------------------|--|
| (1) SERVICE SWITCH | Used for the purpose of servicing and increasing the credits without registering on the meter (this allows you to check the game). |
| (2) TEST SWITCH | For the operation of this switch, see SELF-TEST. |
| (3) VOLUME ADJUSTMENT | Used for adjusting the volume of the speaker. |

In Case of Difficulty

No Raster/No Video

- Check A.C. line cord
- Check line fuse
- Check monitor brightness
- Check power switch and/or interlock switch
- Check all solder connections on line filter and transformer
- Check for proper orientation of the 56 pin PCB connector

Raster/No Video

- Check all PCB to monitor connections
- Check power supply voltage on PCB

No Video/ Game sounds can be heard

- Check monitor brightness
- Check all PCB to monitor connections

Incorrect Colors

- Monitor needs degaussing
- Check for proper wiring between PCB and monitor
- Check monitor adjustment and adjust if necessary

Wavy Picture

- Check monitor ground is properly connected to monitor
- Be certain sync inputs are properly connected to monitor
- Check horizontal hold adjustment

Vertical Roll/Horizontal Tear

- Check horizontal and/or vertical hold adjustments
- Check for proper wiring of sync from PCB to monitor

No Sound

- Check volume control potentiometer adjustment
- Check for + 12 volts on edge connector of PCB
- Check wiring from PCB to speaker
- Check speaker for low resistance between the "+" and "-" tabs

Bad Sound

- Check wiring to speaker for bad solder connections
- Check sound with another speaker

No Switch Input

- Check ground connection to switch/es
- Check wiring between PCB and switch/es for proper connection
- Check switch/es with an ohm meter to verify proper operation

Switch Operates Incorrect Function

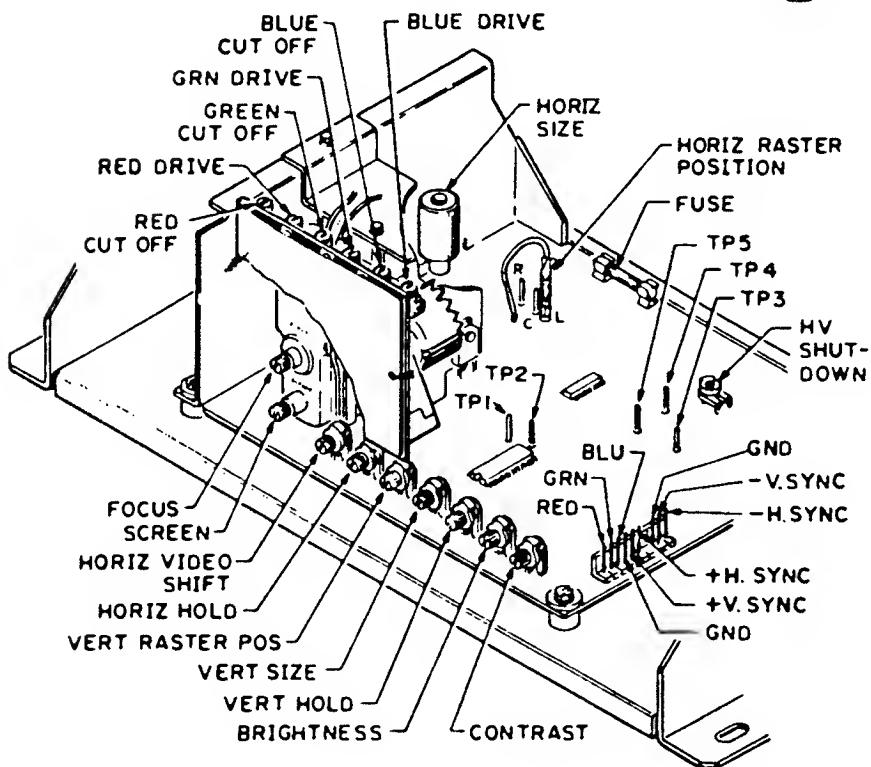
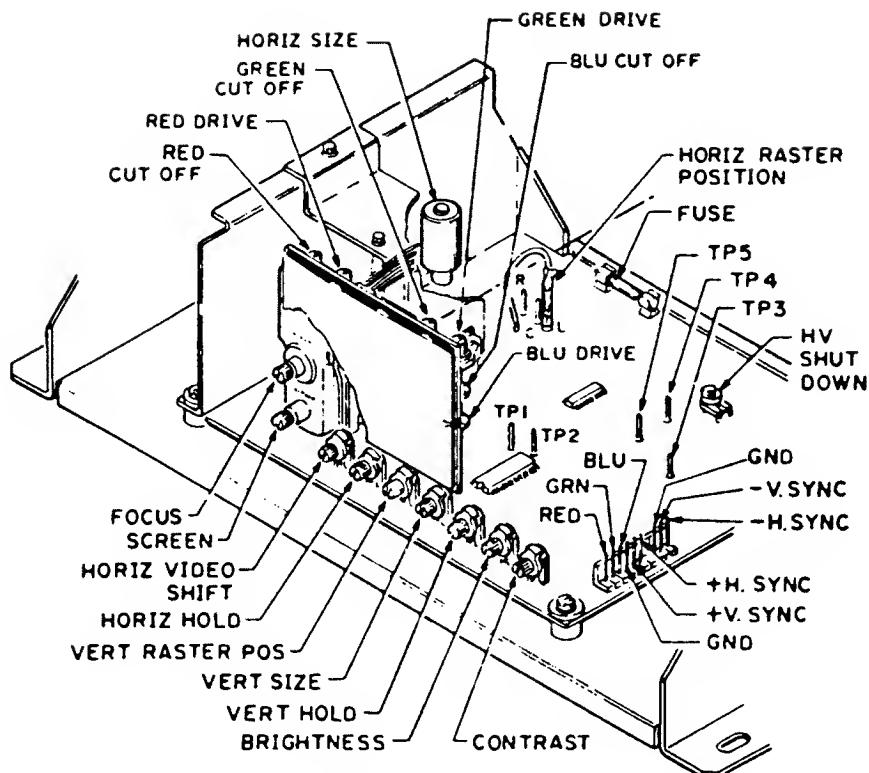
- Check wiring between PCB and switches for proper orientation
- Check wiring for shorts between switch inputs

No Coin Meter

- Check wiring to coin meter
- Check that + 5 volts is on + side of meter
- Verify a + 5 volt meter is used

When coin switch is made and meter pulses, the screen blanks out and/or game resets

- Verify that a meter with a diode is used
- If no diode is built in meter a 1N4004 can be used across the meter. Cathode to "+" side of meter and anode to "-" side of meter.



MONITOR ADJUSTMENTS

ALIEN STORM

DIP SWITCH ASSIGNMENT

COIN / CREDIT OPTION SWITCH SETTING								DIP SW #1	
OPTION	1	2	3	4	5	6	7	8	
1 COIN 1 CREDIT	OFF	OFF	OFF	OFF					
1 COIN 2 CREDITS	ON	OFF	ON	OFF	OFF				
1 COIN 3 CREDITS	OFF	ON	OFF	OFF					
1 COIN 4 CREDITS	ON	ON	OFF	OFF					
1 COIN 5 CREDITS	OFF	OFF	ON	OFF					
1 COIN 6 CREDITS	ON	OFF	ON	OFF					
2 COINS 1 CREDIT	OFF	ON	ON	OFF					
3 COINS 1 CREDIT	ON	ON	ON	OFF					
4 COINS 1 CREDIT	OFF	OFF	OFF	ON					
2 COINS 3 CREDITS	ON	OFF	OFF	ON					
2 COINS 1 CREDIT	OFF	ON	OFF	ON					
4 COINS 3 CREDITS	ON	ON	OFF	ON					
1 COIN 1 CREDIT	OFF	OFF	ON	ON					
2 COINS 2 CREDITS	ON	OFF	ON	ON					
3 COINS 3 CREDITS	OFF	OFF	ON	ON					
4 COINS 4 CREDITS	ON	OFF	ON	ON					
5 COINS 6 CREDITS	OFF	OFF	ON	ON					
1 COIN 1 CREDIT	ON	OFF	ON	ON					
2 COINS 2 CREDITS	OFF	ON	ON	ON					
3 COINS 3 CREDITS	ON	ON	ON	ON					
4 COINS 5 CREDITS	OFF	ON	ON	ON					
1 COIN 1 CREDIT	OFF	ON	ON	ON					
2 COINS 3 CREDITS	ON	ON	ON	ON					
FREE PLAY	ON	ON	ON	ON					
	COIN SW				NOT USED				

GAME OPTION SWITCH SETTINGS								DIP SW #2	
OPTION	1	2	3	4	5	6	7	8	
1 CREDIT TO START	OFF								
2 CREDITS TO START	ON								
ADVERTISE SOUND	OFF ON	OFF ON							
GAME DIFFICULTY	HARDEST HARDER HARD NORMAL EASY EASIER EASIEST SPECIAL		ON OFF ON OFF OFF 	OFF ON ON OFF OFF OFF ON ON	OFF OFF OFF OFF ON ON ON ON	NOT USED NOT USED NOT USED NOT USED NOT USED NOT USED NOT USED NOT USED			

